

What we claim is:

1. A balloon catheter assembly comprising:
 - a first tubular member having a proximal portion and a distal portion with a lumen extending between the proximal portion and the distal portion;
 - a balloon having a proximal waist length, a distal waist length and an expandable region therebetween disposed about the distal portion; and
 - a tie layer disposed between the proximal waist length or distal waist length and the first tubular member, wherein the tie layer comprises a polyester polymer and a polyamide polymer.
2. The balloon catheter assembly according to claim 1, wherein the balloon is formed from an aromatic polyester.
3. The balloon catheter assembly according to claim 1, wherein the balloon is formed from a polyethylene terephthalate.
4. The balloon catheter assembly according to claim 1, wherein the tubular member is formed from a polyamide.
5. The balloon catheter assembly according to claim 1, wherein the tubular member is formed from a polyether block amide.

6. The balloon catheter assembly according to claim 1, wherein the tie layer further comprises a copolymer of polyester and polyamide.

7. The balloon catheter assembly according to claim 1, wherein the tie layer comprises a polyester layer disposed on a polyamide layer, wherein the polyamide layer is disposed between the polyester layer and the first tubular member.

8. The balloon catheter assembly according to claim 7, wherein the polyamide layer comprises a copolymer of polyester and polyamide.

9. The balloon catheter assembly according to claim 7, wherein the polyester layer comprises a polybutylene terephthalate.

10. A balloon catheter assembly comprising:
a first polyamide tubular member having a proximal portion and a distal portion with a lumen extending between the proximal portion and the distal portion;
a polyethylene terephthalate balloon having a proximal waist length, a distal waist length and an expandable region therebetween disposed about the distal portion; and
a tie layer disposed between the proximal waist length or distal waist length and the first tubular member, wherein the tie layer comprises a polyester polymer and a polyamide polymer.

11. The balloon catheter assembly according to claim 10, wherein the tie layer further comprises a copolymer of polyester and polyamide.

12. The balloon catheter assembly according to claim 10, wherein the tie layer comprises a polyester layer disposed on a polyamide layer, wherein the polyamide layer is disposed between the polyester layer and the first tubular member.

13. The balloon catheter assembly according to claim 12, wherein the polyamide layer comprises a copolymer of polyester and polyamide.

14. The balloon catheter assembly according to claim 12, wherein the polyester layer comprises a polybutylene terephthalate.

15. A method for improved bonding between an expandable balloon and a catheter shaft, the method comprising the steps of:

providing a first polyamide tubular member having a proximal portion and a distal portion with a lumen extending between the proximal portion and the distal portion;

disposing a tie layer on the distal portion of the first polyamide tubular member, wherein the tie layer comprises a polyester polymer and a polyamide polymer; and

disposing a polyethylene terephthalate balloon having a proximal waist length, a distal waist length and an expandable region therebetween disposed on the tie layer.

16. The method according to claim 15, wherein the disposing a tie layer comprises disposing a copolymer of polyester and polyamide layer.

17. The method according to claim 15, wherein the disposing a tie layer comprises disposing a polyester layer disposed on a polyamide layer, wherein the polyamide layer is disposed between the polyester layer and the first tubular member.

18. The method according to claim 17, wherein the disposing the polyamide layer comprises disposing a copolymer layer of polyester and polyamide.

19. The method according to claim 17, wherein the disposing the polyester layer comprises disposing a layer comprising polybutylene terephthalate.

20. The method according to claim 15, further comprising applying heat to the distal or proximal waist portion effective to bond the waist portion to the tubular member.